Stuart Baum, Ph.D. February 22, 2005 Appendix I

## Appendix I- Proposed Amendment to the Claims

- 1. A DNA construct for expression of multiple gene products in a cell comprising:
  - (a) a single promoter at the 5' end of the construct[[,]];
- (b) an intein splicing unit comprising two or more extein sequences encoding one or more separate proteins, and one or more intein sequences fused to the carboxy-terminus encoding portion of each extein sequence, except the last extein sequence to be expressed[[,]]; and
- (c) a 3' termination sequence comprising a polyadenylation signal following the last extein protein coding sequence[[,]];

wherein the intein splicing unit is expressed as a precursor protein containing at least one intein flanked by extein encoded proteins; and wherein at least one of the inteins can catalyze excision of the exteins; and wherein at least one amino acid residue is substituted in, or added to, the intein splicing unit so that the excised exteins are not ligated by the intein.

- 7. The construct of claim 1 wherein the extein sequences encoding one or more separate proteins are preceded or followed by a sequence encoding a peptide that targets the gene expression product to a particular compartment within the cell in which the construct is expressed.
- 15. A method for expressing multiple genes in cells comprising transforming the cells with a DNA construct comprising:
  - (a) a single promoter at the 5' end of the construct[[,]];
- (b) an intein splicing unit comprising two or more extein sequences encoding one or more separate proteins, and one or more intein sequences fused to the carboxy-terminus encoding portion of each extein sequence, except the last extein sequence to be expressed[[,]]; and
- (c) a 3' termination sequence comprising a polyadenylation signal following the last <u>extein protein</u> coding sequence;

wherein the intein splicing unit is expressed as a precursor protein containing at least one intein flanked by extein encoded proteins; and wherein at least one of the inteins can catalyze excision of the exteins; and wherein at least one amino acid residue is substituted in, or added to, the intein splicing unit so that the excised exteins are not ligated by the intein.

- 21. The method of claim 15 wherein the extein sequences encoding one or more separate proteins are preceded or followed by a sequence encoding a peptide that targets the gene expression product to a particular compartment within the cell in which the construct is expressed.
- 24. The method of claim 15 wherein the intein splicing unit <u>expression product</u> prevents the ligation reactions normally associated with protein splicing.